

ABSTRACT OF THE DISCLOSURE

An on-chip temperature detection device includes: a bipolar type power transistor; a mirror transistor in which a collector current, which is proportional to a collector  
5 current of the power transistor, flows; a current detection section that detects the collector current of the mirror transistor; a voltage detection section that detects a voltage between a base and an emitter of the power transistor; and a calculation section that calculates a chip temperature  
10 of the power transistor, based upon the collector current of the mirror transistor detected by the current detection section, and upon the voltage between the base and the emitter of the power transistor detected by the voltage detection section.